AMERICAN INTELLIGENCE.

ORIGINAL COMMUNICATIONS.

On the Treatment of Cancer by the Lactate of Iron taken by the Mouth and injected into the Veins. By DANIEL BRAINARD, M.D., Professor of Surgery in Rush Medical College, &c.

About two years since I communicated to Prof. Mussey, Chairman of the Committee on Surgery of the American Medical Association, some reasons which I had for supposing that the lactate of iron was possessed of more influence over cancer than any medicine yet known.

I have, since that time, had occasion to prescribe it often with results which, while they confirm the views expressed in regard to its efficiency in checking it, have not shown that it was capable of entirely curing it. This result was to me neither surprising nor discouraging, as I have already formed and expressed the opinion that to effect a cure "the whole of the solids and fluids of the body must be brought under its influence." That this is not effected by the simple introduction of medicines into the stomach is sufficiently obvious, and indeed to be expected, since the medicine, used in that way, is subjected to the action of the same nutrition and absorption under the influence of which the disease has originated. It is necessary to go behind this; and one of the means of doing so is by injecting it into the veins. It is only recently that I have had an opportunity of putting this method to the test of practice.

CASE. *Dec. 13th,* 1851.—Wm. H. Plumb, æt. 56 years, Englishman, applied to me on account of a tumour of the left orbit.

He gave the following history of his disease: About 25 years ago he had a disease of that eye, called by his physician cataract, which entirely destroyed the vision, but for which no operation was performed. About five years ago he received an injury of that eye from a stick striking against it, which was slight and gave but little pain. About seven months after this blow, he noticed a tumour, no larger than a pea, at the inner canthus "sending off roots into the eyeball." At this time, the tumour and eyeball were removed together by Prof. Smith, of Baltimore. The wound cicatrized well.

He remained in pretty good health about four years, when a tumour made its appearance at the lower and inner part of the orbit; which, in eight months, attained the size of a large hickory nut. It was then operated upon again, but at the end of six weeks recommenced to grow, and, at the time of this examination, was of the size of an orange, filling up the whole of the orbit and projecting in front of it. Its surface was nodulated, elastic, pulsating, ulcerated to a great extent, and from this point there oozed a bloody serous fluid. He was thin but not sallow, and his health was not very much impaired. He complained, however, of acute lancinating pains through the orbit and head.

16th. Extirpation was performed in presence of the hospital class. It was found so firmly attached to the lower part of the orbit that it was necessary to remove the periosteum with it, and at the back part it could not all be removed. There remained a muscular mass which bled profusely, and which was so soft as to break under the forceps or tenaculum. After several ineffectual attempts to apply a ligature the actual cautery was resorted to and succeeded. The wound was dressed with lint. No inflammation followed. There was a copious discharge of red serum for a day or two, which gradually became yellow, and afterwards changed to pus. He was put, from the day of the operation, on the use of lactate of iron gr. v, three times a day in solution.

31*st.* Injected into his veins fʒj of the following solution: Ferri lactis gr. viij; Aq. dist. ℥j. Carefully filter through paper.

Jan. 3, 1852.—Injected ʒij of same solution; 6*th*, fʒiij thrown in; 14*th*, ʒijss injected; 22*d*, ʒij; 26*th*, ʒij; 28*th*, ʒij.

Feb. 3*d*.—ʒij injected; 9*th*, ʒijss.

During the whole of this time the wound cicatrized rapidly. At first luxuriant granulations sprang from the surface, which were repressed by the application of nit. silver. Lanciuating pains continued for some time, but gradually diminished and at length subsided.

In six weeks from the operation the cicatrization was nearly complete. In eight weeks he returned home perfectly well.

The question whether the diseased mass was cancer I do not hesitate to decide in the affirmative. Its history and appearance sufficiently indicate this; its interior perfectly resembled the brain of an infant in a vascular state, and under the microscope it exhibited the most perfectly formed cancer cells. Dr. Johnson, resident physician, fully coincided in this point.

Whether it would have cicatrized without the use of the lactate of iron cannot be determined with the same degree of certainty. Taking into consideration the return, when last extirpated, with the fact that it was afterwards impossible to remove the whole of it, I think the probability of obtaining cicatrization by ordinary means was slight. I should not, however, have thought of performing, or attempting extirpation, but that the patient (who is intelligent and trusting) expressed his desire to be submitted to the treatment when it was explained to him.

I am aware that many surgeons, under the influence of preconceived opinions, may regard such treatment as hazardous. I had fully convinced myself that such was not the case. I have repeatedly thrown gr. x lactate of iron, imperfectly dissolved in an ounce of water, into the veins of a small dog without, in any case, peculiarly bad results.

It will be seen that gr. iij was the largest quantity thrown in at a single time. It was passed in gradually and cold, and, as soon as sensible effects were produced, it was stopped. The effect noticed was a flush of the face, a fullness of the veins of the head, and a tendency to sneeze, which all passed over in a few seconds. The circulation otherwise was unaffected. If the case had not progressed favourably, and it had seemed advisable to change the nutrition more profoundly, I would have had the solution warmed and put it in slowly until its effects were perceptible, then, allowing it to pass over, have repeated it as far as appeared safe.

Up to the time of his departure the injection had been performed nine times, and grs. xix in the aggregate injected. When the activity of the salt is considered, it will be conceded that such a quantity is capable of having an effect on the system by being thrown into the blood.

In addition to that he has during this period, eight weeks, taken ʒxix of the lactate by the mouth, to what extent this may have been absorbed and carried into the circulation, or what changes it may have undergone, it is impossible to determine.

In case of a cancerous disease seated upon an extremity I should, in addition to the two methods of administration resorted to in this instance, infiltrate the whole of the diseased and the healthy tissue about it with a weak solution of the medicine. This can readily be effected by putting a ligature moderately tight about the member until it becomes œdematous, when by the aid of frictions the infiltration and maceration may be effected.—I had omitted to mention that all the injections were made into the veins at the elbow.

In submitting this case to the profession, I am far from claiming for it any merit which it does not possess, or drawing inferences which no single case could warrant. It is offered as an evidence of the practicability and safety of maceration through the medium of the blood systematically pursued with active substances, and to invite attention to other means of treating this inveterate disease than those which hitherto have been admitted by consent to be unsuccessful.

Chicago, *Feb.* 21, 1852.

On the Treatment of Erysipelas by Subcutaneous Infiltration of the Tissues. By Daniel Brainard, M.D., Professor of Surgery in Rush Medical College, &c.

Diffuse inflammation, in whatever tissue it occurs, is, in many cases, the results of the introduction of a specific poison into the fluids of the living body. This is sufficiently obvious in instances of dissecting wounds, but more obscure in other cases in which the source of the poison is less palpable.

If we consider, however, the manner in which practitioners attending cases of erysipelas, communicate diffuse peritonitis, phlebitis, &c., to puerperal patients; that most cases of erysipelas of the face originate on the surface of the mucous membrane of the throat, or nostrils; that, in the members, it commences usually in the lymphatics or glands, and extends to the skin, veins, and areolar tissue; that the situation in which it most frequently occurs is on the scalp, back, surface of a divided bone, and the internal surface of the uterus, where, from the open vessels, absorption most readily takes place; that ulcers from frost bite, bite of animals, and unhealthy ulcers, are those most frequently attended by erysipelas; if, moreover, we compare its effects with that of the poison of serpents, we shall see that there are but few cases of true erysipelas where there is not a wound or ulcer on the surface of which the poison can be found, or where it is introduced from a foreign source.

What is the nature of this poison?

We are profoundly ignorant on this point, although, from analogy with the poison of serpents, &c., we might infer, with more or less probability of correctness, that it is an acid.

In what manner does it operate?

Its first effect is upon the lymphatic glands, its second upon the lymphatic trunks, next on the bloodvessels and areolar tissue near the point of inoculation.

The poison acts as a leaven, or by presence and catalysis, not in the first instance on the blood, but on that universally diffused fluid in the system which is extra-vascular, and in which the action of nutrition takes place. The blood only becomes secondarily changed.

How long does it take to act?

This depends upon its intensity, its quantity, the degree of predisposition, the point of inoculation, and other circumstances which are unknown. In ordinary cases, perhaps, four days might be considered the average time required from its introduction to the production of severe constitutional symptoms.

Is there any method of preventing its action?

It seems to me obvious that neither bleeding, purging, vomiting, sweating, nor any known method of internal treatment can effect this cure. Neither can external applications fully do it.

Could not the medicine be put in the tissue where the morbid matter is operating?

To determine this point, I took a common exploring trocar, and, inserting it under the skin of a dog, injected different medicinal solutions. I found they produced suppuration. Using distilled water, the same effect was produced. It was owing then to the mechanical breaking of the tissue, not to the medicine. I then tried the common tube used for mercurial injections, which having a capillary point might allow it to infiltrate.

Here again I was disappointed; it would not infiltrate, or so slowly as to be of no avail.

Not discouraged by these difficulties, I determined to make use of it, first, on the human subject in cases where œdema or erysipelatous effusion had taken place.

Two cases treated in this manner were reported to the Chairman of the Committee on Surgery of the American Medical Association; which, as they will be noticed in their *Transactions*, need not be repeated here.

The manner in which the infiltration is effected is this:—

A small syringe is furnished with a point drawn down to a capillary tube, into which is fitted a steel point as fine as the finest needle. When this is inserted into the point, they form but one pointed needle, which may be passed like an acupuncture needle in any direction through the tissues, veins, or arterial trunks. The steel needle being withdrawn, and the syringe adapted to the point, the tissue is infiltrated by gradually injecting the desired medicinal fluid, using frictions to disseminate it.

Case.—Patrick Marmion, æt. about 23 years, had his hands severely frozen on the 23d of Dec. 1851. Some days after, the little finger of the left hand was amputated, an unhealthy wound remaining after it. He applied to me on the 15th of Jan., with the following symptoms:—

Left hand and forearm swollen to the utmost limit of the skin, arm much swollen, glands of axilla enlarged and tender. Surface of the hand and forearm, red vesications at different points, extreme pain, pitting on pressure. Considerable constitutional disturbance. Treatment. Inserted the point of an infiltrating syringe under the skin on the back of the hand, and slowly passed in a sol. of gr. x. iod. potassa in f℥iv dist. water. This was disseminated by frictions. A solution of iodine and hyd. potassa was also applied externally.

The first effect of the infiltration was a severe smarting pain, which subsided at the end of a few hours, and along with it much of the pain of the hand. At the end of twelve hours the pain was quite gone. The swelling subsided; on the 20th, there only remained a stiffness behind.

At this time I amputated the little finger of the right hand. This was followed by enlargement of the lymphatic glands of the axilla; red lines ran along the inside of the arm, redness, swelling and pain severe, as in the case of the other member. Thinking, perhaps, that the subsidence of the symptoms in the other case, after the use of the infiltration, might be merely accidental, I, in this case, used the external application of the sol. of iodine, and the usual internal means. On the 25th, an abscess had formed upon the front side of the wrist, which I opened. I then attempted to infiltrate the back of the right hand as I had before the other; but spilling, by accident, half the liquid, only gr. v. iodid. potass. in f℥ij of water was thrown in.

27th. An abscess had formed on the under side of the wrist, which was opened. The 29th, another abscess had formed in the ball of the thumb, which I opened. The case slowly convalesced; *but there was no suppuration in the situation of the infiltration.* It is not, indeed, certain that it would have occurred there without, but the case proves at least that the infiltration had no tendency to produce it.

The solution of the hyd. potash was preferred, because it is well known that it can be thrown into the tissues without producing suppuration, and for theoretical reasons on account of the alkali it contains. Thus far I had only operated on tissues already infiltrated.

In case of inoculation by snake bite or other poison, I should recommend, in case the poison had been already absorbed and could not be destroyed by cauterization, the application of a ligature so as very nearly to interrupt the venous circulation. This stops absorption at once, and when at the end of several hours the member becomes œdematous, then the infiltration can be effected. In snake bite the remedy proposed by Dr. Whitmire, a solution of iodine and hyd. potash, should, in the present state of our knowledge, be preferred.

I have ascertained by experiment that œdema of the limbs, sufficient to allow of infiltration, can be produced by ligatures moderately tight so as to give no pain.

I think it not improbable that medicines introduced into the system in this manner will, in some cases, act more efficiently than when taken into the stomach or injected into the veins. We know that many poisons act instantaneously when inoculated, and are harmless when swallowed.

When introduced into the veins, they are rapidly eliminated by the kidneys. Independently of this, I have reasons for believing that the effects of medicines, when taken into the stomach, when injected into the veins, when thrown into the different serous membranes, and when infiltrated into the areolar tissue, are not identical, but that the method of employing them has a controlling effect on their action.

Head of a Child in a State of Putrefaction from Strangulation, the Funis being twice tightly bound round the Neck. By H. A. Bizzen, M.D., of Clinton, Miss.

A case occurred in my practice during the last year similar to one reported, by Mr. A. Owens, in the previous number of this Journal, p. 203.

The case was briefly as follows: On the 15th of November last, I was called to see Mrs. S——, æt. 18, in her first accouchement. She was in great pain, the pains recurring at intervals of ten or fifteen minutes. On examination I found the head fairly engaged in the superior strait, and expected that she would be delivered in a few hours at furthest. This condition of things remained for the space of twenty-four hours, at the end of which the membranes ruptured and the waters were discharged spontaneously. From this time the pains became excruciating, without any further advancement of the head.

She soon began to exhibit signs of delirium; and the family were much alarmed. In consequence of which I proposed to send for my instruments, and at the same time medical advisers. I called in Dr. W. G. Micks, and Dr. James A. Bizzen (my brother); but, before their arrival, I found it necessary to extract some blood from the arm and give the lady a warm bath; I also administered an anodyne draught; some or all of which relieved the pains and delirium entirely before the arrival of the other physicians.

In consultation with Dr. Micks, it was thought that the lady was sufficiently strong, and that delivery might be effected by the natural powers; so we simply resorted to some stimulating enemata, which seemed to have no effect, but were discharged immediately.

In about twelve hours from that time, pains came on a second time much as they were at first, only there seemed to be a very slow and almost imperceptible advancement of the head, which was expelled in about thirteen hours afterwards, making the whole duration of labour forty-nine hours or more.

On passing my finger to the cervix of the child, I found that the funis was wrapped twice around the neck and imbedded in the flesh, when I was able to account for a sudden gush of putrid and very offensive fluid from the mouth and nose of the child as soon as they had escaped the vulva. I made traction on each end of the chord and found both unyielding; I proposed to Dr. Micks to pass a ligature around the chord and to cut it in order to prevent further mischief, which he readily assented to. As soon as I put the scissors on the chord and began to cut, the remaining portion was lacerated, and the body of the child expelled with tremendous force.

Condition of the Child.—Head in a state of putrefaction, skin slipping when pressed in, and of a dark venous hue and offensive odour. Body sound and of a lively colour and appearance. Skin tough and moderately elastic. Placenta of normal size. Chord about normal length.

I believe that the strength of the chord and the firmness of the placental attachment were the sole cause of the tardy labour in this case, and that, as the uterine contraction pressed the head down, the tension of the chord and firmness of the attachment of the placenta retained the body in utero. And also that while the mechanical pressure around the neck strangulated that part, and caused the head to die, the body was still living and the circulation through the chord was but very slightly interfered with. The lady did quite well.

CLINTON, *Jan. 14th*, 1852.

DOMESTIC SUMMARY.

Fractures of the Lower End of the Radius.—Dr. HENRY BOND read before the Philadelphia College of Physicians, on the 2d of December last, a paper on this subject, which has been published in their *Transactions*. It contains some extremely valuable suggestions for the treatment of this accident, and we shall therefore give a full abstract of it.

Dr. BOND says that, according to his observations, there is no fracture, except that of the neck of the thigh bone, where there is so often a failure to accomplish a perfect cure, as that of the lower end of the radius. Practitioners may tell us that, although they have often *seen* deformed wrists, and rigid or anchylosed hands, *they* have had good success—have always cured; yet a critical examination of their cases would often show that there remained either more or less deformity of the radius or the wrist, a more or less complete loss of the use of the hand, or an extremely tedious recovery, much more tedious than occurs ordinarily in other fractures.

The usual mode of treating these fractures, as is well known, consists in the use of two long straight splints, with compresses or cushions, and bandages. The palmar splint extends from the elbow down to the extremities of the fingers. Some, however, do not allow this to extend below the second joints of the fingers. The dorsal splint extends sometimes only to the extremity of the metacarpe. When this dressing is applied, the longitudinal axis of the forearm will be continuous, or parallel, with that of the hand.

There are several objections to this mode of dressing the fracture, which I will attempt to point out. In the first place, it violates what ought to be regarded as a surgical canon in the treatment of fractures, viz., to adopt such a position as will put all the muscles, acting on the part, as much in repose, as free from tension, as possible; so that the least counteracting force will be required. 2d. The constrained position of the hand demands tighter bandaging, in order to prevent derangement of the fragments by paralyzing or subduing the muscles that are rendered tense by the position assumed. 3d. This constrained position and tight bandaging greatly increase the danger of that protracted or permanent rigidity of the hand and fingers which is a too frequent result of those injuries. 4th. This mode of dressing, by long straight splints, not only increases the danger that it will result in rigidity, but that, when it does occur, the hand will be left unsightly, inconvenient, or useless. 5th. There is another objection to it, which will be regarded by the surgeon as of more or less importance, according as he is actuated more or less by the feelings of humanity. I refer to the distress or discomfort which must result from a constrained position and the force applied to maintain it.

The muscles that act on the hand are least tense, or most in repose, when the hand is inclined backwards, so that the metacarpe forms a considerable angle with the forearm,* when it is also inclined inwards towards the ulnar side of the arm, and when the fingers are moderately flexed. In this case it will be perceived that the longitudinal axis of the forearm, if prolonged, would not correspond with that of the hand, but would pass through, or very near, the point, where the thumb and index finger most easily and naturally meet. Thus in the innumerable manipulations with the thumb and fingers (as with a pen, pencil, button, needle, money, &c. &c.), their points most easily and naturally meet in this axis of the forearm. This will be found to be the position of the hand, when it hangs by the side with all the muscles relaxed.

This consideration is of little comparative importance in the case of young persons, and of those who have followed no laborious handicraft; but to persons advanced in life, and to those whose muscles and joints have become rigid by hard labour, and to whom the hand is the means of subsistence, it is a point of very material importance. A large portion of these fractures occur among such patients. When such a hand is firmly swathed by a roller upon the long straight palmar splint, it is forced into a constrained position, and some of the muscles, acting on the fragments, are put into extreme tension. This condition of the muscles must act strongly on the fragments of the radius, and must tend strongly to derange them, especially when the fracture is oblique.

To counteract this tendency to displacement of the fragments on account of the tense condition of the muscles, the bandage with the compresses must be applied so tightly as greatly to increase the risk of that frequent ill success so well described by Dr. Barton.

When the hand is placed in the position above described, so as to take off tension from all the muscles, there will be so little tendency to displacement of the fragments, that a very gentle pressure of compresses and bandages will be adequate to maintain them in their proper relation to each other. The dressing may be removed earlier, so as to give motion to the hand and fingers, without danger of producing derangement of the fragments, and the gentle pressure of the dressing will be less likely to deprive the tendons and sheaths of their lubricity, and thus to cause permanent adhesions.

There are cases, as before observed, where such violence is done to the bones and soft parts, especially in elderly persons of a rheumatic or gouty diathesis, that it may be impossible to avoid permanent adhesions and rigidity. In such cases, if the usual authorized mode of treatment be adopted, the result will be a most awkward, unsightly, useless member.

But if the hand can be placed and retained in the unconstrained natural position above mentioned (to say nothing of the better chance of escaping permanent stiffness), *in the first place*, the unsightly deformity will be avoided; and in the *next place*, the hand will not entirely have lost its uses. For the hand, thumb, and fingers, being placed very nearly in the position of their most frequent uses, the interossei, the lumbricales, and the several short muscles of the thumb will, by causing only a very limited motion, enable the hand to perform very many of its useful functions.

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* Malgaigne calls this *la flexion habituelle de la main en arrière.*

I can say with confidence, not only from *à priori* reasoning, but from some experience within the last few years, that the dressing of a limb on the principles here inculcated, will very materially conduce to the comfort of a patient. I shall here make no comment upon what is said about paralyzing the muscles by tight bandages, nor upon the power of the body to accommodate itself, by a very painful discipline, to very distressing necessities.

The importance of the position of the hand in the treatment of fractures of the radius has been fully recognized for a long time by eminent surgeons. In these cases, Mr. Cline did not allow the splints or the sling to extend below the wrist. His object was to let the hand, by its own weight, and without any impediment, incline towards the ulnar edge of the forearm; and, while the ulna acted as a counter-extending force, this inclination of the hand would prevent the fragments from overriding or overlapping each other, and make it very easy to keep them in apposition. He understood well the mechanism of this accident. When the radius alone is broken, the ulna affords all requisite counter-extension; and in proportion as the hand is inclined towards the ulna, will the lower fragments be drawn down, so that there will be hardly a chance for one fragment to overlap the other; certainly there will be little difficulty in keeping the fragments in apposition with very gentle means. But Mr. Cline's method of dressing, in order to accomplish the indication, was too indeterminate; he could not depend upon maintaining steadily the same degree of inclination of the hand, and one might suppose that there would be danger of producing artificial joints. Nevertheless, I am persuaded that, with Mr. Cline's method of treatment with short splints, there would be fewer cases terminating in deformity and loss of the use of the hand, than when the arm and hand are tightly swathed in long straight splints.

Sir Charles Bell long ago inculcated the importance of the inclination of the hand in the treatment of fractures of the forearm, and he has given a plate illustrating his opinion. Boyer is very explicit upon this point. He says, "the extension should be made by inclining the hand towards the ulnar edge of the forearm." Yet this obvious principle and this explicit direction are wholly disregarded in the present usual mode of dressing with long straight splints and tight bandages. Dupuytren, whose lectures on this subject should be studied by every surgeon, devised a splint—his *attelle cubitale*—with the special object of maintaining this inclination of the hand towards the ulna. Notwithstanding this great man devoted such deep attention to this subject, there were serious defects in his apparatus, which have been pointed out by subsequent French writers.

I have attempted to devise a mode of dressing these fractures, having reference to the principles advanced in this paper, and that will meet the following indications:—

1. To maintain such an inclination of the hand upon the forearm as shall most effectually relieve the muscles from tension, or put them in repose.
2. To maintain the hand and fingers in a position that, if rigidity should result, the member shall be as little an incumbrance, and retain as many of its uses, as possible.
3. To make it easy of application, requiring no extraordinary skill or dexterity, and little liable to be deranged or displaced.
4. To make the dressing easy and comfortable to the patient, while it does not lack efficiency.

My own experience of its use, within the last three years, convinces me that I have to some extent accomplished these indications. How far this shall be corroborated by others can be known only when others shall have had time, opportunity, and disposition to test it.

To enable others to test the principles herein maintained, in the mode of treating these fractures, I offer the following directions for preparing the dressing, with some explanations as to its application :—

Fig. 1.

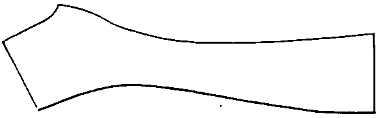

Fig. 1. A board cut to correspond with the profile of the forearm and hand.

Fig. 2.

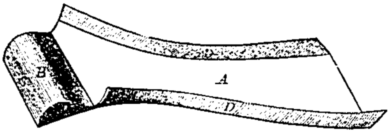

Fig. 2. *A*. This whole space down to the *palmar block* (*B*) to be covered with pasteboard. *C. C.* Parts of the block, which must be more or less cut away, to suit the prominences of the hand. *D. D.* The projecting and elevated edges of the pasteboard.

1. With a light board, of proper thickness for a splint, take a profile of the well forearm and hand of the patient, placing the hand in its habitual inclination towards the ulnar side of the arm, and extending the profile from the elbow downwards, so that it shall reach the second joint of the fingers on the inside, when these are moderately flexed—as much flexed as they are when the points of the thumb and fingers are brought into contact. The lower end of the board must be cut off obliquely (at an angle of fifteen or eighteen degrees) in a direction corresponding with that of a body grasped in the hand, when the hand is inclined to the ulna, as above indicated. [See fig. 1.]

2. Cover the board thus prepared with sheeting, or other strong fabric. This may be done by winding around it, from end to end, a narrow rolling bandage, covering all of it as nearly as may be with few or no duplications. This is the most expeditious method. A neater one is to cut a piece of sheeting, of the general form of the board, but extending beyond the board on every side, and fastening it upon the board either by a few stitches, drawing towards each other the overlapping edges, or gluing down those edges upon that side of the board which is to be towards the arm, and which edges are to be covered with the pasteboard.

3. Prepare a block of soft, light wood, from seven-eighths to eleven-eighths of an inch thick, and from two to two and a half inches wide, according to the size of the patient's hand, and of a length corresponding with the width of the board in the palm of the hand. This block is to be carved and rounded, so as to adapt it to the form of the hand, and make it easy for the thumb, and in the grasp of the hand when it is placed on the board. It is to be fastened there by screws or nails, so that the remote edge of it shall correspond exactly with the lower oblique end of the board.

4. Upon that part of the board not covered by the palm-block, fasten, by means of small carpet tacks, a piece of book-binder's pasteboard, extending on each side beyond the edges of the board about an inch. If the pasteboard be very thick and stiff, make a slight incision in it along the edge of the board, in order to bend more easily the two projecting portions of it, thereby making a kind of box for the lodgment of the arm. [See fig. 2.]

It seems to me that this splint, or one constructed on the same principles, will meet the above-mentioned indications in the following manner: *First.* The form given to the board retains the hand in its habitual inclination towards the ulnar edge of the arm, accomplishing the object aimed at by Dupuytren's *attelle cubitale*, with as much certainty, with more simplicity, and more comfort to the patient. *Second.* The palmar block retains the hand in its habitual inclination backwards, and it gives the fingers that moderate flexion which most relieves the muscles from tension, and likewise that position which, if stiffness should result, will not only save the hand from a most inconvenient, ungraceful deformity, but will reserve to it the power of performing very many of its most frequent and useful functions. In addition to these advantages, this block contributes much to the comfort of the patient. *Third.* The object in covering the board with a strong fabric, as above described, is to retain the bandage with certainty in its place, without applying it with a dangerous tightness; for, by fastening the roller to this covering with pins, the surgeon need never have his patience tried by finding his dressing deranged, at his next visit. I can speak with confidence on this point, from having used it repeatedly in cases where this quality was fully tested. *Fourth.* The pasteboard is not an essentially necessary part of the splint, but it will be found to contribute to the comfort of the patient and the convenience of the surgeon.

The requisites for dressing with this splint are flannel or other soft fabric, to cover or line the inside of the splint; two compresses; a roller; sometimes, but not always, a dorsal splint.

The flannel or other fabric with which the splint is lined should extend a little beyond the edges of the pasteboard, and the same piece may be extended over the palmar block; but it will be better to cover this block with a separate piece. For this purpose, take a piece of flannel large enough, when it is doubled, to cover the block. Through the doubled edge, with a proper needle, carry a small string (such as ligature-twine), and tie this around the splint immediately above the block. The covering of the block thus applied may be conveniently changed, without removing the arm from its bed.

Two compresses will generally be required: the anterior or palmar, and the posterior or dorsal. The proper construction and application of the former of these are a most important point in this dressing, and certainly not less so when long, straight splints are employed; and deformity of the radius or wrist will most frequently result from negligence or want of skill in its use. If the compress be deficient in thickness, and the bandage be applied with its usual tightness, there will not fail to be either a curvature forwards, or a sigmoid flexure, which are the usual deformities. If the thickness of this compress be excessive, there may be a curvature backwards, which I think seldom occurs; but there will be such undue pressure by such a compress as to increase the danger of adhesions, and to aggravate the discomfort of the patient.

I consider this point so important that I shall run the risk of being thought tediously minute.

It has seemed to me a notable defect in Dr. Barton's mode prescribed for dressing this fracture with straight splints, that he directs the two compresses to be of equal dimensions, and of about the same dimensions in every case. He says: "Two compresses, each about two inches square, and composed of strips of bandage about one yard and a half long, evenly folded up, are to be in readiness." Dr. Barton's very eminent skill would undoubtedly vary from this direction, as each case might require. But we object to this as a rule for those who follow rules implicitly.

If we apply a long, straight splint to the palmar side of several uninjured forearms, we shall find the space between the splint and that part of the forearm, to which the compress is usually applied, to vary very much, being two or three times as great in some cases as others. This space will depend upon the form of the bones of the forearm (which are sometimes considerably curved backwards), upon its muscularity or emaciation, and upon the greater or less prominence of the heel of the hand. This anterior compress must, therefore, vary in thickness, according to the varying form of the forearm and hand.

In order to determine with precision the requisite thickness of this compress in any case, place a long, straight splint upon the palmar side of the uninjured forearm of the patient, and make a compress of such thickness as to fill the space, so that the splint applied shall bear as firmly upon the compress as the ends of it do upon the wrist and upper part of the forearm. It is to be observed that, when the hand has its usual inclination backwards, the space between the forearm and splint will be less, and of course require a compress of less thickness than when the hand and forearm are swathed upon a long, straight splint.

With the splint here presented to the College, it is wholly unnecessary to attach this compress to the forearm by means of a roller. And where there is not such a necessity, it is generally worse than useless to apply a roller directly to the arm before the splint is applied. Some eminent surgeon has said, that the only advantage is, that it impresses bystanders with an idea of the complexity and difficulty of the operation. If excoriation should be threatened, cover the part with soap plaster. Place this anterior compress on the splint, so that its lower edge shall approach very near to the lower end of the upper fragment of the radius, when the forearm is laid upon the compress in the splint.

These preparations being made, the fragments, if deranged, are to be reduced, and the splint applied. I have very seldom, if ever, found any difficulty in replacing the fragments. Let an assistant, grasping the hand (not the fingers), incline it towards the ulnar side of the arm, according to the direction of Boyer, making steady, but not very vigorous tension, and with his thumbs and fingers the surgeon will easily press the projecting fragments into their proper relation to each other. In making this extension, Dr. Dorsay directs the assistant to "grasp the hand." Dr. Barton says an assistant "makes extension from the fingers." It seems to me that Dr. Barton errs on this point. The objections are, first, that by grasping and pulling the fingers, the flexor muscles are brought into so much more tension, that they will offer more resistance to the extending force. In the next place, by pulling at the fingers the hand will be brought more nearly into a direct line with the forearm, instead of being inclined towards the ulna, the utility of which inclination in such cases is, I think, so obvious that it would be superfluous to cite authority or to attempt a demonstration.

After the forearm is laid into the splint, apply the dorsal compress. This compress is seldom essentially necessary in these cases; but it may always be advisable to use it. Its thickness is comparatively unimportant, especially when a dorsal splint is not employed. It may be made of folds of a bandage of about the width of the wrist, and so long as to cover the lower fragment of the radius and the wrist, but not extend upon the hand. After adjusting this compress, apply a roller, beginning upon the lower fragment of the radius, carrying it down over the wrist, the metacarpus, and the first joints of the fingers, leaving the thumb free; then returning with the bandage to the upper end of the splint, and attaching it in several places by pins to the woven covering of the splint. If the compresses have been properly made and adjusted, it is unnecessary, with this splint, to apply the bandage with anything like the tension ordinarily employed in dressings with the long straight splints; and those accustomed to the use of these splints will be liable to err on this point.

A dorsal splint is unnecessary, unless the fracture occur so high up that there is danger of diminishing the interosseous space between the bones of the forearm. In such a case, it is necessary. It should be so wide that the bandage will not pass upon the fragments in such a manner as to lessen the interosseous space; and it should be so long as to reach from near the elbow to the hand, but not extend upon the metacarpus.

It may sometimes be necessary to use longitudinal narrow compresses to prevent the contraction of the interosseous space. But where no roller is applied directly upon the arm, it is probable that these long narrow compresses will not commonly be found necessary.

Although the preceding observations have had an especial reference to fractures of the lower end of the radius, probably some of the principles advanced and the means proposed to carry them out, may be extended farther. How far they may be applicable to other injuries or diseases of the forearm and hand, I leave to be determined by future observation.

We understand that Dr. Bond's splint has been recently used in the Pennsylvania Hospital in several cases, and with the most satisfactory results.

Protrusion of the Eyeball, probably from an Encysted Tumour in the Orbit.—Dr. Hays remarked that, if there was nothing of more importance to occupy the attention of the College, he would take the opportunity of relating the outlines of a somewhat curious case that had been interesting to him, and, he thought, might be so to the Fellows present.

He had been sent for, in April last, to see a lady from the State of New Jersey, about thirty-five years of age, of lymphatic constitution, who was labouring under a very considerable protrusion of the right eyeball, which was rolled inwards towards the internal canthus; the upper eyelid was greatly enlarged by a number of encysted tumours within it. The deformity resulting from this condition of the eye, as may readily be supposed, was very considerable—the sight of the eye was entirely gone.

Dr. Hays was unable to obtain any very satisfactory history of the case. The patient was an orphan, and from her brother, who was but a few years older than herself, all that could be learned was, that from his earliest recollections of his sister her right eye was somewhat protuberant. He thinks that he had heard her parents say, that up to her fourth year she had had no affection of her eye, but soon after this period the swelling had commenced, and had gradually increased, until it had attained its present magnitude. The physicians in her neighbourhood had been consulted in her case, and had tried a variety of remedies for her relief, but without success. She had, finally, been brought to Philadelphia for the purpose of consulting Dr. Hays.

Dr. H. could not discover anything in the case to lead him to suspect that the protrusion of the eye was caused by the formation of a malignant tumour behind it; he suspected that it was caused either by an encysted tumour behind the ball, or by an effusion within the capsule of Tenon. Still, he was not sufficiently positive as to the correctness of this diagnosis as to warrant him in the introduction of a bistoury with the view of causing the discharge of the effused fluid. He concluded, therefore, to first direct his attention to the removal of the cysts within the upper eyelid, in the hope that, in the course of his attendance, the correctness of his diagnosis would be confirmed or disproved.

One of the cysts was opened with the knife, and then solid sulphate of copper was applied to its inner surface. The others were treated in succession in the same way, and the tumefaction of the lid, in consequence, was considerably reduced. At this state of the case, Dr. Hays left for Charleston, to attend the session of the American Medical Association. Upon his return he was sent for, and then learned that, on the day he left the patient had accidentally tripped over, and, in falling, had struck with violence the right eye against the edge of a chair. The pain was intense, and the consequent swelling, from the contusion and ecchymosis, very considerable; upon the disappearance of this, it was found that the protrusion of the eyeball had greatly diminished. Dr. H. thought that very little doubt could exist as to the mode in which the violence inflicted upon the eye, in this case, had caused the removal of the protrusion previously existing. It was evidently by the rupture of the cyst or of the capsule of Tenon and the consequent escape of the fluid into the cellular tissue of the orbit where it had been afterwards absorbed. Had the protrusion been caused by a malignant tumour formed at the bottom of the orbit, the blow upon the eye, instead of being followed by a removal of the pre-existing deformity, would, on the contrary, have been more likely to be followed by an augmentation of the mischief, if not the rapid destruction, of the eye.

The protrusion of the eye has now nearly disappeared; the strabismus, however, still continues, and vision remains extinct.—*Transactions of the Philadelphia College of Physicians*, Oct. 7, 1851.

Amputation of the entire Lower Jaw, with Disarticulation of both Condyles.—Dr. J. M. Carnochan records, in the *New York Journ. of Med.* (January 1852), a case of necrosis of the lower jaw, in which he amputated the entire bone. The subject of it was a farmer, forty-three years of age, and disease of the bone is supposed to have resulted from a cachectic condition, following an attack of typhus fever. The operation was performed on the 13th of July—it was not thought expedient to administer an anæsthetic.

"The patient being seated on a chair, and the assistants properly arranged, an incision was first made, commencing opposite the left condyle, passing downwards towards the angle of the jaw, ranging at about two lines in front of the posterior border of the ramus, and extending thence along the base of the jaw, to terminate by a slight curve on the mesial line, half an inch below the free margin of the lower lip. The bone was now partially laid bare, by dissecting upwards the tissues of the cheek, and by reflecting downwards, for a short distance, the lower edge of the incision. The tissues forming the floor of the mouth, and situated upon the inner surface of the body of the bone, were separated from their attachments from a point near the mesial line, as far back as the angle of the jaw. The attachments of the buccinator were next divided. The facial artery, the sub-mental and the sub-lingual, already cut, were then secured by ligature. It was now seen that the bone was partially separated at the symphysis, and that the necrosis was complete from that point to the inferior portion of the ramus. The ramus itself was found diseased; the periosteum externally was inflamed, and in some parts easily detached. The tongue was now grasped and held forwards, while the attachments of the genio-hyoglossi muscles were divided. A double ligature was passed through the anterior part of the root of the tongue, and intrusted to an assistant, in order to prevent its retraction upon the superior orifice of the larynx. A fatal case from the falling backwards of the tongue, occurred a few years ago, in the practice of an eminent surgeon of this city; and a similar misfortune should always be guarded against, when the muscular attachments of the tongue to the posterior part of the bone behind the symphysis are divided. A slight force exercised upon the left half of the body of the jaw, broke the connection at the symphysis and at the angle, and this part was easily removed. The next step consisted in the removal of the left ramus. The external surface of the branch of the jaw, and of the temporo-maxillary articulation were exposed, by dissecting the masseter upwards, as far as the zygomatic arch. Seizing the ramus in order to pull the coronoid process downwards below the zygoma, it was found that the temporal muscle was rigidly and permanently retracted. This circumstance presented an unexpected difficulty, which was increased by the unusual development of this apophysis, and by the retraction also of the pterygoid muscles. Passing the forefinger along the inner aspect of the ramus, the situation of the internal and external carotids was sought for and recognized. The insertion of the pterygoideus internus was then felt and cut, grazing the bone in doing so; the lingual nerve, here in close proximity, being carefully avoided. Passing still higher up, the orifice of the dental canal, indicated by an osseous projection, could be felt; and the instrument, still guided by the finger, divided the dental artery and nerve. The knife was thus made to separate the tissues attached to the inner face of the bone, as high up as a point situated about a line below the sigmoid notch, between the condyle and the coronoid process. On a level with this point, at the posterior margin of the ramus, the transverse facial, internal maxillary, and temporal arteries form a kind of tripod, the two last named branches of which should not be divided, if possible. It now became necessary to detach the tendon of the temporal muscle. As the coronoid process could not be depressed, I proceeded cautiously, by dividing the lower attachments of the tendon, by means of blunt curved scissors; and by using them and a probe-pointed bistoury, alternately—keeping close to the bone—a considerable portion of the tendon was divided. Deeming it not prudent to use freely a sharp cutting instrument, deep in the temporal fossa, where the coronoid process was situated, I made use of a pair of bone scissors, curved flatwise; and by passing the blades of this instrument over the process, as far as its position would permit, the temporal muscle was detached; a small portion of the apex of the coronoid process being cut through. The ramus, now movable, could be made use of as a lever to aid in the disarticulation of the bone.

"In order to effect safely the disarticulation of the condyle, I began by penetrating into the joint, by cutting the ligaments from *before backwards*, and from *without inwards*. The articulation was thus opened sufficiently to allow the condyle to be completely luxated. Blunt scissors were now used to cut carefully the internal part of the capsule, and the maxillary insertion of the external pterygoid muscle; and by a slow movement of rotation of the ramus upon its axis, the condyle was detached, and the operation was completed on this side. By proceeding to disarticulate by the method here described, injury to the temporal artery, as well as to the internal maxillary, was avoided.

"To effect the removal of the other half of the lower jaw, the same incision was made on the opposite side, so as to meet the first on the mesial line. The dissection was also similar; and by disarticulating the second condyle in the same manner as had been observed for the first, I was successful again in avoiding lesion of the temporal and internal maxillary arteries."

The object had in view, in shaping the external incisions, in such a way that an inverted V should be formed in front of the insertion of the genio-hyoglossi muscles, was to leave a portion of integument so fashioned, that the suture-pins could be passed through the integument, and, at the same time, through the root of the tongue, at the point where its muscles had been detached from the inner surface of the jaw. The several tissues becoming thus incorporated in the resulting cicatrix, served to form a new bridle, somewhat analogous to the natural muscular attachments of the tongue to the genial processes.

"The amount of blood lost was inconsiderable; the arteries divided, besides those mentioned, were the transverse facial, the anterior masseteric, the anterior parotidean, &c.; and these were secured as soon as divided. The bone being disarticulated, the flaps were adjusted, and the lips of the incision united, by eighteen points of twisted suture. The tongue was retained forwards after the dressing, by attaching the ends of the ligature already passed through its base, on each side, to a bandage passed vertically around the head. Forty-eight hours after the operation, the first dressing was removed. Union by first intention had taken place, and eight of the suture-pins were taken out. In ninety-six hours, the wound was again examined. Union was found to be entirely completed, and the remaining pins were removed. On the seventh day, it was thought safe to remove the ligature from the tongue. On the tenth day, the arterial ligatures came away; and on the fourteenth day, the patient was pronounced cured; not having had an untoward symptom since the performance of the operation."

The general condition and health of the patient at the date of the report are stated to be good, and that he is able to perform any ordinary vocation. "The ducts of Steno, on both sides, were necessarily divided in the superficial incisions; but there is no salivary fistule, the saliva taking its course into the mouth. The division of the branches of the facial nerve has not been followed by paralysis of the face; although for a time after the reunion of the incision, the orbicularis palpebrarum of the right side appeared to have lost its action to some extent. In grasping the chin, a thin cartilaginous deposit can now be felt, extending, crescent-shaped, for about three inches, and occupying the position at which the bone was most diseased. Higher up, toward the glenoid cavity, no deposition of bone or cartilage has taken place. Injury to the bag of the pharynx, during the detachment of the soft tissues from the angle of the jaw, was carefully avoided, and fluids could be swallowed, in small quantities, immediately after the operation. Deglutition is now effected without difficulty. Articulation is sufficiently distinct to render his words intelligible, and although unable to masticate, he does not complain of difficulty in eating, breaking up, as he says he does, his food between the tongue and the palatal vault of the superior maxillæ."

Ovariotomy; Death in thirty-nine hours.—Dr. W. H. VAN BUREN has communicated to the New York Pathological Society (*New York Journal of Medicine*, March 1852) the details of a case in which he removed an ovarian tumour by the large abdominal section. The subject of it was "a married lady, forty-five years of age, of active habits, spare build and good constitution, had been annoyed by an enlargement of her abdomen for seven years, during which time it had gradually increased to the size attained by most women at the seventh month of pregnancy. She had borne four children, and thought herself larger, and felt as if she carried more weight than with any of them. Her last childbirth dated five years before the commencement of the abdominal enlargement. This began whilst she was in the enjoyment of apparently excellent health, by the occurrence of a sudden and severe pain in the lower part of the belly, on the left side, about the position occupied by the left ovary; the pain at this point, which was of a sore, aching character, led to the discovery of a hard movable mass as large as an egg, apparently in the cavity of the abdomen. In a few days the pain disappeared spontaneously; but the newly-discovered tumour continued to increase steadily in size, thenceforward without the slightest pain, until the present time. She consulted several physicians, and was told she had an ovarian tumour; but few remedies were employed, and these exercised no apparent influence upon its growth. She continued in good health, suffering only inconvenience from the tumour, for five years, and menstruated regularly. At the end of this time a slight but continuous bloody discharge commenced from the vagina, and thenceforward no *periodical* increase of the discharge was recognized."

After a time there occurred a gradual protrusion from the vulva, consisting of the upper wall of the vagina, and posterior wall of the bladder. This gave rise to much inconvenience; "excoriation was caused by the contact of the urine with the protrusion, and it prevented her from taking active exercise; added to which there was now a manifest deterioration in her general health. Up to this period she was sensible of a great degree of mobility in the tumour, and was able almost to turn it over and over on itself.

"The increasing uneasiness and constant hemorrhage during the following two years was accompanied by a progressive increase of debility, and at the end of this time she had fully made up her mind to undergo the removal of the tumour, if such an operation were possible," and with that view consulted Dr. Van Buren.

On examination, Dr. V. "found the abdomen occupied by a tumour about the size of the uterus between the seventh and eighth month of pregnancy, and possessing a very considerable degree of mobility. It was evidently not of a fibrous hardness, but gave a sensation at most points of deep and obscure fluctuation; at one spot this fluctuation was quite evident. The cavity of the abdomen contained also a sensible, though trifling amount of fluid, showing that peritoneal effusion had already commenced.

"The tumour was evidently deeply received into the cavity of the pelvis; a finger in the rectum recognized this fact, and also the sensation of deep fluctuation in correspondence with the other hand placed upon the abdomen. By this manœuvre it was also attempted to lift the tumour out of the pelvis, but without much success; the impression being left by this mode of examination that adhesions might possibly exist connecting the tumour with the pelvis.

"By two fingers in the vagina the protrusion of the bladder with its upper wall was recognized, as well as the mobility of the uterus separately from the tumour, which was made out satisfactorily, although with difficulty, as also its natural size, situation, and weight. It was not found necessary to employ the uterine sound. I recognized, also, distinctly as I thought, ulceration around the greater part of the os uteri, and accounted thereby for the hemorrhage from which she had so long suffered. Under the head of adhesions, I find it mentioned in the notes taken at the time of this first examination, that 'the intestines maintained a suspicious proximity to the tumour in the right hypochondrium, especially when it is pushed well towards the opposite side.'

"As to her general condition at this time, she presented no evidences of disease, beyond what has been described, except a constantly too frequent pulse, and a slightly yellowish tint of skin; these were both considered as consequences of the habitual loss of blood, and she was advised to use twelve drops of the syrup of the iodide of iron, an hour after each meal, as a remedy called for in any event. Her appetite was habitually good, and the bowels had always acted well. She was thin, but not emaciated, and of firm fibre."

Dr. Mott saw the patient in consultation, and "after a thorough examination of the case, in which the difficulty of determining the existence and extent of pelvic adhesions was recognized as the only decidedly unfavourable feature in view of an operation, it was determined that an exploratory incision should be made on the linea alba, large enough to admit the hand, and that in this manner the extent of the adhesions should be ascertained. If the tumour should be found generally adherent to the pelvis, the operation was to be at once relinquished; if otherwise, its removal was to be effected.

"Dr. Mott considered her, on the whole, as a good subject for an operation, and that her general condition was favourable to its success."

The result of the consultation was made known to the patient, and the dangers of the operation stated to her, and she decided to have it performed. The patient was advised to take the iodide of iron, and on the 12th November, her condition being improved, the operation was performed. Her pulse was now 86, and there was no perceptible vaginal discharge. *Chloroform* was administered. "A male silver catheter was introduced into the urethra, and, as anticipated, the bladder was found to be almost entirely without the vulva, and containing a trifling amount of urine. An incision, about five inches in length, was made through the linea alba, extending from the umbilicus downwards, and the hand introduced through it into the peritoneal cavity, and well downwards into the pelvis; the surface of the tumour was felt everywhere round and smooth, and free from all connections, with the exception of an apparently slight attachment of the intestines, above and to the right, which had been previously expected, and the left, broad ligament, the pedicle by which it was attached to the uterus. Dr. Mott having also introduced his hand, recognized the same condition of parts; and it was immediately determined to proceed to the removal of the tumour. The abdominal incision was prolonged upwards, about four inches farther, when it was found that the bulk of the tumour could escape through it. This it did entirely, bringing with it a portion of the intestines, of which the mesentery was found to be adherent, over a space of about three square inches, to the upper part of the tumour, on its right side. These adhesions were dissected from the tumour, as closely as possible to its surface, and the bleeding vessels, which were unusually numerous, committed to the charge of Dr. Wood, who temporarily commanded them by pressure. On examining the pedicle of the tumour, which consisted of the broad ligament of the uterus, with its contained vessels, and the Fallopian tube, we were struck by the size of several enormous veins, as large as an ordinary finger, converging from the surface of the tumour towards the pedicle. My design was now to tie the entire pedicle, which was about three inches in width, by the application of several successive ligatures, close to the tumour, and then to remove it. In drawing the first ligature tight, the coats of one of these enlarged veins, which were unnaturally thin, gave way, and a considerable gush of venous blood followed; the size of the tumour, the management of which required both hands of one of my assistants, together with the shortness of the pedicle, which was almost concealed by the mass, rendered it impossible, without some little delay, to control the hemorrhage, and cut through its attachments; and during this time the exposure of the intestines, and the loss of blood, which was estimated, in all, at about ℥xij, gave rise to a considerable amount of prostration. The oozing from the mesenteric attachment was also somewhat obstinate, and required the use of six ligatures before it was entirely controlled; these were of the finest silk, and their ends were both cut off close to the knot. The wound was then brought together by means of large 'insect pins,' and the twisted suture, with intermediate strips of adhesive plaster, accurately applied. A compress and bandage completed the dressing.

"The patient's pulse, at this time, was about 120, and very feeble, and the surface cool. The influence of the chloroform had been allowed to subside, and there was a good deal of pain complained of, which seemed to be caused principally by the strangulation of the broad ligament.

"She was placed comfortably in bed, and ten drops of Magendie's solution of morphine, administered in ʒij of brandy. This amount of morphine and brandy was repeated every half hour, until half past three o'clock P. M., when she became tranquil, with a pulse of 82, and small, but reaction had evidently commenced. She still complained much of thirst, and beef tea was given in small quantities, with ice. At 7 o'clock P. M. reaction was entirely established; the pulse was 94, and fuller, and the surface warm; very slight complaint of pain. The beef tea exciting disgust, toast water was substituted for it.

"At 10 o'clock, on the morning of the 13th, her condition was as follows: pulse 130, small and weak; respiration thoracic, 38 in the minute; decubitus dorsal, legs drawn up voluntarily; extremities rather cool; expression of countenance unpromising; increased anxiety; occasional but slight restlessness; no pain; sense of increased debility. Eructation of wind continues troublesome; tympanitic distension of abdomen increased; complains of pain on pressure at its lower part. She passed water without assistance twice during the night, and has no return of the vomiting. Equal parts of brandy and strong beef tea were directed in the quantity of ℥j each hour with 10 drops of sol. morphine every third hour, with artificial heat to the extremities. Ice internally. At 3½ P. M., pulse more frequent and feeble; constant thirst; great prostration. Stimulus increased as much as possible, morphine being discontinued. 7 P. M., still sinking; occasional delirium. Continue stimulus. Death took place at 2 o'clock on the morning of the 14th, 39 hours after the operation."

Post-mortem eight hours after death. "The abdomen was very much distended with gas, in consequence of which the edges of the wound had been forced apart at one or two points; elsewhere adhesive union was evidently progressing. On removing the points of suture and enlarging the wound, tolerably firm fibrinous adhesions were found to exist uniformly between the parietes of the abdomen and the distended intestines, and also between their folds. The surface of the peritoneum presented very slight traces of vascularity. At the point where the ligatures had been applied to the broad ligament of the uterus, pus was found deposited to the amount of two or three drachms, surrounded by adhesions. About half a pint of serum, slightly tinged with blood, was found in the cavity of the pelvis. There were no coagula discovered.

"The uterus was removed. The mucous membrane around the os presented traces of vascular congestion, and was rough from the presence of enlarged glandulæ Nabothi, but there was no ulceration detected. On laying open its cavity a minute polypous growth of soft consistence was found adhering by a slender pedicle to its fundus. The organ was otherwise healthy.

"The remaining viscera in the cavity of the abdomen, as far as examined, exhibited no further evidences of disease."

The weight of the tumour was eight pounds, and was composed entirely of the left ovary. When laid open it was found to be encephaloid cancer.

Premature Discharge of Liquor Amnii.—Dr. W. N. Hurt records, in the *New Hampshire Journ. Med.* (Oct. 1851), the following case of this kind:—

Mrs. H., pregnant with her second child, about fourteen weeks after conception, was attacked with hemorrhage from the uterus, which continued more or less for about three weeks, when it suddenly became so profuse as to alarm her and her friends, in consequence of which I was called to see her. On my arrival, I found she was flooding considerably, with intermittent pains resembling those of the incipient stages of labour. I resolved at once to check the hemorrhage, and, if possible, to prevent abortion, which I knew must soon follow if the symptoms were not promptly met. The appropriate remedies were administered, which soon arrested the hemorrhage and relieved the pains, and with prudent management my patient experienced no farther inconvenience, with the exception of a slight return of the hemorrhage occasionally for a short time, which entirely disappeared as the patient regained her health and strength. This she continued to enjoy until, according to her calculation she was seven months and a half advanced in the pregnant state, when, as she was walking across the room, without any pain previously or at the time, the membranes broke, and a quantity of water was discharged. I was summoned in haste to attend her, and on my arrival, about an hour and a half after the accident, I found her entirely free from pain, though much alarmed at what had happened to her. A few words, however, from me soon removed her apprehensions of danger, and she became composed and slept well through the night, the waters continually dripping from the vagina, and this continued more or less for several days. I remained with her only a short time, when I left her without prescribing anything for her except a purgative, which her costive situation demanded. She was up about sixteen days from this time, (her habits and manner of living being the same as usual,) when I was called to her again about ten o'clock at night. I found her in labour, her pains being slow but strong. These gradually increased in force and frequency until about four o'clock in the morning, when she was delivered of a very small, though living male child. The presentation and labour were perfectly natural, with the exception of the waters, which had been previously discharged. The physical developments of the infant convinced me that she had not arrived at the full period of gestation. The child looked for several weeks as though it were hardly possible for it to survive any length of time; but now at four months old it is improving very fast, and, I think, stands a pretty fair chance to be raised.

Statistics of Fractures of the Skull.—Dr. Frederick D. Lente has presented (*New York Journ. Med.*, Jan. 1852) a highly interesting and valuable statistical account of the fractures of the skull, occurring in the New York Hospital during the twelve years elapsing between the first of January, 1839, and the first of April, 1851.

The table embraces 128 cases, of which 106 were fatal.

"Of the 128 cases, the exact extent of the fracture was ascertained in 95. In 45 of these the fracture involved both calvarium and base.

"In 31 it involved the calvarium alone.

"And in 20 the base alone.

"In 26, or 20.31 per cent., both the brain and its membranes were lacerated; and in 4, the membranes alone. Of these 30 cases, only 3 recovered. In 10 cases there was *hernia cerebri*, only two of which recovered. In 19 cases, or nearly 15 per cent., the fracture of the skull was complicated with other fractures, most of them very serious, and many of them almost sufficient of themselves to produce a fatal result.

"*Fracture of the Base of the Skull.*—In sixteen of the fractures involving the base of the skull alone, the manner of the accident is mentioned. In thirteen it occurred from a fall from a height upon the head. In two, from the fall of a heavy body from a height upon the head; and in one from being beaten over the head with a club. Almost all these fractures, it will be seen, occur from falls upon the head, the base of the skull being thus forcibly impelled against the spinal column, and thus broken, the fracture being doubtless also due, in some measure, to *contre coup.*

"*Separation of the Sutures.*—In *three* cases, there was separation of the sutures without any fracture. In *four*, separation of the sutures accompanied by fracture. In all these cases, the anchylosis of the sutures, judging from the condition of those uninjured, was perfect. In *five* out of the seven cases, the injury was occasioned by a fall from a height, striking upon the head; in one from a blow by a passing rail-road car, and in one from a blow with a club. This is a rare form of fracture, and only occurs, according to the authorities, from a very severe injury.

Fracture of the Internal Table without Injury of the External.—In no case was this precise condition of things observed; but in two instances there was a very near approach to it, there being a mere fissure of the external plate, with fracture, attended by considerable depression of the internal. In one of them, the specimen of which is preserved in the pathological cabinet of the hospital, the fissure of the external table was so very slight as to be undiscoverable upon a first examination of the calvarium after its removal.

"In two cases there was fracture of the calvarium by *contre coup.*

"*Condition of the Pupils.*—In all the cases, twelve in number, where the extravasation or depression was confined to one side, and the pupils affected differently, the *dilatation* was on the *same side* with the cause of compression. In none on the opposite side. But, in many cases where this cause was situated exclusively on one side, no particular difference was noticed in the condition of the pupils, they being entirely unaffected, or affected alike. In *twelve* cases, in which the symptoms of *compression* were well marked, the patients not being in immediate danger of death, the pupils were *dilated* in *ten* (10), contracted in *two* (2).

"*Paralysis.*—In *eleven* cases in which there was hemiplegia, whether partial or total, rarely the latter, and where the injury was mostly confined to one side or the other, it was found to affect the opposite side in ten (10), the same side in one.

"*Trephining.*—In forty-five cases in which this operation was resorted to, not distinguishing between the application of the trephine proper and of the various instruments appertaining to a trephining case, *eleven*, or about one-fourth, recovered.

"The operation was performed *prophylactically* in ten (10), of which three were cured; *therapeutically* in thirty-two (32), of which eight were cured. In three of the latter, the operation was secondary, of which two recovered. In seven of the cases trephined, the fracture was simple. In five cases, incision of the *dura mater* was practised, of which none recovered.

"In no case did death follow the receipt of the injury until after the lapse of some hours, even in the most desperate cases; nor does it appear to be possible for an ordinary blow upon the head, producing fracture of the skull, to cause immediate death. The nearest approach to it I ever saw was just previous to the termination of my term of service in May last; I was called into the yard to see a man in a carriage, who, it was said, had just fallen from the rigging of a ship to the deck, striking upon his head; this was the history obtained from his two shipmates who brought him to the hospital. Upon examination, I found the case hopeless; the man was perfectly dead, and had given no signs of life after the accident; he was not removed from the carriage. I could detect no fracture of the skull, and none of the neck, and yet either might have existed; probably a half hour or hour elapsed between the receipt of the injury and his arrival at the hospital. In a recent criminal trial of great interest, it will be recollected that, at one stage of the proceedings, it was much discussed whether a blow upon the head with an ordinary weapon capable of inflicting death, could produce this result instantaneously; many eminent surgeons were examined, and the general impression was, that the thing was exceedingly improbable if not impossible, and the question was thus decided."

Fractures of the Cranium.—Dr. John Hardin, of Louisville, Ky., relates, in the *Western Journ. of Med. and Surg.* (March, 1852), some interesting cases of fracture of the cranium, of two of which we shall give a brief abstract.

Case I. The subject of this was a negro man between thirty and forty years of age, who, in the spring of 1844, had been struck on the head with the back of a hoe, which laid open the scalp. As there were no symptoms of cerebral compression, the wound was simply dressed, and soon healed. A few months afterwards epilepsy and insanity supervened. In the fall of the same year he was seen by Dr. H., who decided to apply the trephine. A crucial incision was made, and the flaps turned back, exposing a depression large enough to admit the end of the thumb, and about half an inch in depth; which was filled with a substance of recent growth, of a fibrous structure. The crown of the largest trephine barely included the whole of the depressed portion. Upon sawing through and removing this, there were found numerous spicula pressing upon the dura mater, none of them, however, so far as could be ascertained, penetrating that membrane. These were all carefully removed. The dura mater was of a deeper red colour than natural, evincing circumscribed, chronic inflammation. The recovery of the patient from epilepsy and insanity was complete, in a few weeks, but his general health, which had become very much impaired, was not restored, and a year afterwards he became the subject of paralysis of the lower extremities with dropsical effusions, and he died about two years after receiving the injury. No autopsy was made.

Case II. This was a lad, sixteen years of age, who had fallen, five months previously, from an apple tree, and received, in the superior internal portion of the orbit, a hard seasoned sprout which was growing at the root of the tree.

It was supposed that as he arose the snag was withdrawn, leaving a small wound through the eyelid. This wound remained open, and continued to discharge matter for some weeks, when it was ascertained that the foreign body was still lodged in the cranium. It was promptly removed and the wound healed; but, soon afterwards, the young man was seized with epileptic convulsions, and subsequently passed into a furious insanity. At this stage of his malady, Dr. Hodgen, of Campbellsville, was called to attend him, and he requested my advice in the case. Not being apprised of the extent of the injury, but seeing that the brain was greatly diseased, we determined on an exploring operation. At this period the patient had from fifteen to twenty convulsions daily. An inverted Λ incision was made on the forehead above the injury, the flap turned down so as to expose the superciliary ridge, and upon the verge of this the centre-pin was fixed, so as to remove a little more than half a circle of bone; when this was removed, the superior orbitar plate was found to be in a state of comminuted fracture; the fragments were carefully extracted; the internal wall of the frontal sinus, being in a state of integrity, was not interfered with; the membrane lining the sinus was in a state of subacute inflammation, and the operation was consequently very painful. The flap being replaced, water dressings were applied; the young man had but one fit after the operation, and four years afterwards, when Dr. H. last heard from him, he was in the enjoyment of sound health of body and of mind.

American Medical Association.—The fifth annual meeting of the American Medical Association will be held at Richmond, Virginia, on Tuesday, May 4th, 1852.

All secretaries of societies, and of other bodies entitled to representation in this Association, are requested to forward to the undersigned correct lists of their respective delegations as soon as they may be appointed.

The following is an extract from Art. II. of the Constitution:—

"Each local society shall have the privilege of sending to the Association one delegate for every ten of its regular resident members, and one for every additional fraction of more than half of this number. The faculty of every regularly constituted medical college or chartered school of medicine shall have the privilege of sending two delegates. The professional staff of every chartered or municipal hospital containing a hundred inmates or more shall have the privilege of sending two delegates; and every other permanently organized medical institution of good standing shall have the privilege of sending one delegate."

The medical press of the United States is respectfully requested to copy.

P. CLAIBORNE GOOCH, M.D.
One of the Secretaries, Bank Street, Richmond, Va.

Medical Society of the State of Pennsylvania.—This Society will hold its next annual meeting in Philadelphia, on the last Wednesday in May (26th), at 11 o'clock A. M.